

CLAIMS:

1. An electrical wire connecting device, comprising:
an insulative housing ;

a screw mounted for rotation in the housing, the screw being capable of selective rotation in a first or second direction about a rotational axis at a preselected level with said housing, said screw being restrained from axial movement within said housing;

a slider supported within said housing and engaged with said screw and capable of forward or rearward axial movement within said housing movement and upon said screw in accordance with the screw rotation direction;

a guide hole disposed in said housing spaced apart from said screw, the guide hole providing a passage into said housing which receives an electrical wire inserted into said housing, said housing further including a conductive contact proximate to said guide hole for contact the wire inserted into said guide hole; and,

a cam for selectively pressing said wire inserted into said guide hole into electrical contact with said contact, the cam including a body portion rotatably mounted within said housing, the cam including a wire-contacting portion for pressing said wire inserted into said guide hole against said contact, said cam wire-contacting portion moving into pressing engagement with said wire when said screw is turned in said first direction and said slider moves in a forward direction and said cam wire-contacting portion moving out of pressing engagement with said wire to permit said wire to be removed from said guide hole when said screw is turned in said second direction and said slider moves in a rearward direction .

2. The wire connecting device according to claim 1, wherein the slider has a threaded passage that threadedly engages said screw, and wherein frictional force acting between the screw and the slider threaded passage prevents said slider from moving without rotating said screw.

3. The wire connecting device according to claim 1, wherein said slider includes a projection disposed thereon, and wherein said cam includes a cavity disposed on the cam body, the cam cavity receiving the slider projection therein.

4. The wire connecting device according to claim 1, wherein said cam includes a stop surface that is moved into said guide hole by rotation of said screw in said second direction, the stop surface preventing insertion of said wire into said guide hole a distance more than a preselected length.

5. The wire connecting device according to claim 1, wherein said guide hole and said screw are parallel to each other within said housing.

6. The wire connecting device according to claim 3, wherein said slider projection has a frustoconical configuration.

7. The wire connecting device according to claim 3, wherein said cam cavity includes a pair of opposing hook surfaces that project partially into said cam cavity, the cam cavity hook surfaces engaging said slider projection from opposite directions.

8. The wire connecting device according to claim 1, wherein said contact defines a surface of said guide hole.

9. The wire connecting device according to claim 8, wherein said contact projects rearwardly of said housing.

10. The wire connecting device according to claim 1, wherein said cam includes at least two projections extending transversely from said cam body toward opposing walls of said housing, the projections maintaining true rotation of said cam within said housing.

11. The wire connecting device according to claim 4, wherein said cam wire-contacting portion and said cam stop surface are spaced circumferentially apart from each other on said cam body.

12. The wire connecting device according to claim 1, wherein said guide hole includes a lead in surface.